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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,008	01/20/2004	Richard Baker	09991-133001	9638
26161 7590 01/16/2007 FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER LEFF, STEVEN N	
			ART UNIT	PAPER NUMBER
			1761	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/761,008

Applicant(s)

BAKER ET AL.

Examiner

Steven Leff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☒ Claim(s) 35 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/23/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

The numbering of claims must be numbered consecutively. As the claims are currently written there are two claims numbered 35. The second claim numbered 35, will be addressed as claim 36. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23, 32, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claims 23 and 36 are indefinite due to the phrase "coffee drink". It is unclear as to what is meant to represent a "coffee drink". For instance, the coffee drink could be frozen, cold, or hot, all of which would affect the viscosity and the application of an image.
- Claim 32 is indefinite due to the phrase "free flowing". It is unclear as to what extent, or viscosity range "free flowing" is meant to represent. For instance, water and glue could both be viewed as "free flowing"; however they flow differently.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

- Claims 1-8, 10-12, 13, 15-16, and 19-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willcocks et al. (WO 01/94116)

With regards to claims 1-8, 10-12, 13, 15-16, and 19-36 Willcocks et al. teach a method for printing high-resolution images on an edible substrate. The printing of the image on the edible substrate is accomplished with the use of a drop on demand ink-jet printer that uses food grade ink and is capable of obtaining resolution of greater than 200 dpi. (pg. 6 line 21+) Willcocks et al. further disclose that the edible substrate may be chocolate, or ice cream (pg. 20 lines 9+) and that the image quality and resolution is dependant upon the surface chemistry of the ink and the edible substrate. (pg. 22 line 12+) "Other embodiments according to the invention which can have advantageous effect on image quality include, controlling the surface energy of the chocolate by changing the temperature of the substrate of the ink." (pg. 22 line 12+)

Willcocks et al. further teach that the ink can be a "water based" ink, (pg. 26 line 10+) or the ink composition may also be substantially "free of water". (pg. 28 line 20+) Willcocks et al. further teach that the compatibility of the ink with the surface of the edible substrate is critical (pg. 21 line 1+) and that "temperature modulation of the ink cartridge can also be used to advantageously modify or control ink rheology to maximize printing performance." (pg. 22 line 29+) An alcohol may be added to the ink composition as part of the carrier so that the image will dry quickly once printed, (pg. 28 line 24+) and additionally dyes may be present. (pg. 31 line 4+) The image is finally treated by "drying or fixing the image after the printing step." (clm. 20)

With regard to the handling of the product once the image has been applied, Willcocks et al. teach using a computer system to manage and coordinate the rapid fulfillment of the customer order. The fulfillment of the orders, or turnaround time, may be on an as-you-wait basis or the customer may return for it at later time. (pg. 17 line 13+)

With respect to claims 1, 7, 27, and 31 although Willcocks et al do not teach a specific drop volume, Willcocks et al. does teach the use of a drop on demand ink jet printer for producing images on edible substrates where the resolution of the image should be greater than 200 dpi. Since the referenced printing means and resolution meet those of the instant claims, it would be expected that the drop volume would meet the limitations of the instant claims, absent any clear

and convincing evidence and/or arguments to the contrary. Further the patent office does not possess the facilities to test the claimed invention and those of the reference. The office action has set forth a prima facie case of obviousness, and thus the burden shifts to applicant to demonstrate otherwise. Thus the claimed invention is obvious over the reference and therefore it would be expected that the drop volume of the edible media would meet the limitations of the claims, absent any clear and convincing evidence or arguments to the contrary.

With regard to claims 2-4 and 29-30 although Willcocks et al. do not disclose specifically treating the ice cream by cooling and/or freezing to a specific temperature, Willcocks et al. do teach that the image is treated by "drying or fixing the image after the printing step", (clm. 20) and further disclose the use of ice cream as the edible substrate. (pg. 20 lines 9+) Since the reference states that the edible substrate is ice cream and that the edible substrate is treated by "fixing the image after the printing step", it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." (see MPEP 2144.01) In the instant case, one of ordinary skill in the art would view that the "fixing step" could be meant to represent cooling or freezing to a specific temperature in order to keep the ice cream from melting. Where the only difference between the prior art and the claims was a recitation of a relative treating step of the claimed method, where the claimed relative treating step would not perform differently than the prior art method, the claimed method would not be patentably distinct from the prior art device. (see MPEP 2144.04 IV A)

With respect to claims 5, 28, and 29 although Willcocks et al. do not specifically state how or when the edible substrate is packaged, Willcocks et al. does teach using a computer system to manage and coordinate the rapid fulfillment of the customer order. The fulfillment of the orders, or turnaround time, may be on an as-you-wait basis or the customer may return for it at later time. (pg. 17 line 13+) One of ordinary skill in the art would have been motivated to contain the edible substrate in a container after the application of the image for shipping and/or transporting purposes in order to protect the edible substrate from the environment. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to have provided a container for protecting the edible substrate after the image has been applied.

With regard to claims 1, 6, 7, 10, 12-14 and 23, 24, 27, 31, 32 and 35 although Willcocks et al. do not specifically state the viscosity of the edible substrate or the gravity flow ability

during the application of the image, Willcocks et al. do teach the use of ice cream, and chocolate as possible edible substrates. Willcocks et al. continue by teaching that "other embodiments according to the invention, which can have advantageous effects on image quality, include, controlling the surface energy of the ice cream by changing the temperature of the substrate". (pg. 22 line 12+) Therefore one of ordinary skill in the art would have been motivated to alter the temperature of the edible substrate in order to achieve the desired viscosity and therefore the desired end product. Specifically regarding claims 6, 12, 22, 23, 24, 32, and 35, Willcocks et al. teach altering the temperature of the substrate in order to affect the image quality. The altering of the temperature of the edible substrate prior to the application of the image would subsequently alter the viscosity of the substrate. Further the temperature or degree of freezing of the edible substrate would also directly affect the viscosity and thus the type of substrate. For example, regarding claims 23 and 35 which recite that the food product is a coffee drink, the coffee drink could be conventional hot coffee, or the coffee drink could be a frozen coffee drink, in either instance the product is still a coffee drink with an image, where the difference is the viscosity of the two coffee drinks.

In addition, although Willcocks et al. do not teach a specific temperature with regard to the media during application, Willcocks et al. does teach that the compatibility of the ink with the surface of the edible substrate is critical (pg. 21 line 1+) and that "temperature modulation of the ink cartridge can also be used to advantageously modify or control ink rheology to maximize printing performance." (pg. 22 line 29+) However, where the only difference between the prior art and the claims was a recitation of a specific viscosity and temperature of the claimed method, where the claimed specific viscosity and temperature would not perform differently than the prior art device, the claimed device would not be patentably distinct from the prior art device. (see MPEP 2144.04 IV A)

Willcocks et al. further teach that the image resolution should be at least 200 dpi where claims 11, and 31 recite a resolution of 50 dpi. Although the reference does not specifically recite a number value for gravity flow ability, viscosity and temperature, it does state that the edible substrate is ice cream and that an image with a resolution of at least 200 dpi. is applied to the substrate using an ink jet printer. Since the referenced method and materials meet those of the instant claims, it would be expected that the resulting product, an edible substrate with an image applied, would thus meet the limitations of the claims, absent any clear and convincing evidence and/or arguments to the contrary. Therefore with regard to claims 1, 6, 7, 10, 12-14 and 23, 24,

27, 31, 32 and 35 it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to adjust the specific working parameters as addressed above for the purpose of producing a high resolution image on an edible substrate of the consumer's choice.

With regard to claims 26, 31, 33, and 34 Willcocks et al. do not teach a value in terms of the amount of image bleed, which directly affects the resolution of the image. The degree that an image bleeds is dependant upon different factors, such as the surface characteristics of the substrate and the media used, as well as the amount of time it takes the image to dry after being applied. One of ordinary skill in the art would have been motivated to recite an image bleed value in order to ensure that the desired image resolution is achieved. However, Willcocks et al. teach the addition of alcohol to the media composition as part of the carrier so that the image will dry quickly once printed, (pg. 28 line 24+) and further teach an image resolution of 200 dpi after the image has been applied to the edible substrate using an ink jet printer. Therefore since Willcocks et al. teach that alcohol may be included in the media for its art recognized and applicant's intended function of achieving a desired resolution, and since the referenced method and materials meet those of the instant claims, it would be expected that the resulting product, an edible substrate with an image applied, would thus meet the limitations of the claims, absent any clear and convincing evidence and/or arguments to the contrary.

- Claims 9, 13, 14, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willcocks et al. in view of Baker et al.

Willcocks et al. are taken as above.

Baker et al. teaches applying marks to "food products" (col. 5 line 22) using "hot melt inks which are solid at room temperature and liquid at temperatures above room temperature. Hot melt inks can be used, for example, in ink jet printing. During ink jet printing, the ink is heated so that it becomes liquid, and then is ejected through a print head onto a substrate. The ink then solidifies on the substrate." (col. 1 lines 5+) The ink has a targeted melt viscosity of about 5 to 100 centipoise, (col. 3 line 10+) an auto-dispersing or a non-dispersible wax (clms. 1 and 10) and is ejected by activation of the PZT (piezoelectric transducer). (col. 5 line 9+)

With respect to claims 9, 13, 14, and 17-18, Willcocks et al do not teach the use of a piezoelectric ink jet printer, and further does not teach the use of an ejection media which has a viscosity of about 70-100 cps. at room temperature, or 8-20 cps. under ejection conditions. However, since the provision of providing an image on an edible substrate is a desirable feature, which would further enhance the substrate's overall appearance, one of ordinary skill in the art

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would have been motivated to combine the teaching of Willcocks et al. and Baker et al. in order to produce an edible substrate with an image using a piezoelectric ink jet printer, thus further automating the method and producing a more resolute image. The selection and use of a particular printer known in the art would not have involved an inventive step and therefore would have been obvious to one of ordinary skill in the art to utilize, based upon the desired image and substrate utilized. Further, it would have been obvious to one of ordinary skill in the art to use a wax in the composition of the media as is specifically taught by Baker, in order to increase the viscosity of the media and thus subsequently increase the number of edible substrates that the image can be applied to, such as less viscous substrates.

Therefore with respect to claims 9, 13, 14, and 17-18, it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to have produced a substrate with an image that was applied through the use of a piezoelectric ink jet printer.

Allowable Subject Matter

There is no allowable subject matter at this time

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. WO 03/048260, 5142967, 4158847, 5637139, 5453122, 6093239, 5643667, 4562081, 5895682, US-5938826, DE-19510232, JP-08113746, WO-200194116. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Leff whose telephone number is (571) 272-6527. The examiner can normally be reached on Mon-Fri 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SL



KEITH HENDRICKS
PRIMARY EXAMINER